

1. What is the oldest fossil evidence of life of any kind (on Earth) and where was it found in?
2. What was the Nobel-Prize-winning experiments of Dr. Miller at the University of Chicago in the 1950's and why was it important?
3. What is the idea that continents enlarge and "grow" by accretion of new materials around their margins?
4. What are shield, cratons, platforms?
5. What are prokaryotic organisms, what do they include, when did they develop and what are their characteristics?
6. Why did a reduced atmosphere is favored for the early stages of the development of life?
7. Explain the difference between an angular unconformity, nonconformity, and disconformity and be able to recognize examples.
  8. What is "BIF", how old is it, what is its origin, and what type of mineral resource is it?
  9. What is a "reduced" atmosphere and what would it contain?
  10. Tell the time significance of a contact that is an angular unconformity, and what difference (if any) there is if the contact in question were actually a disconformity.
  11. What was / is the "Miller Experiment" and what did / does it have to do with the history of the earth?
  12. In recent years it has become known that most life forms associated with deep sea hot springs actually receive most of their requisite nutrients from symbiotic chemosynthetic algae that live within the tissue of the animals.
    - a) What would this knowledge lead us to conclude regarding any selective advantage/disadvantages relating to the origins of life on this planet?
    - b) Does this association indicate the animals living around "black smokers" are among the first advanced life forms to develop in the oceans? (Why or why not?)
  13. What are the characteristics of the Archean? The Proterozoic? How do they differ in atmosphere, rock type, fossils, temperature, etc.?
  14. What are some of the major ore minerals in the Precambrian that are less common in the Phanerozoic?